

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended): In a wireless communication system including a plurality of user equipment mobile terminals (UEs) and a base station, wherein a first subset of the UEs have pending downlink transmissions and a second subset of the UEs do not have pending downlink transmissions, a method of minimizing overhead signaling and optimizing radio resource utilization by restricting the transmission of channel quality measurement requests to only those UEs that have pending downlink transmissions so as to avoid unnecessary channel quality measurements performed by the UEs and also avoid unnecessary channel quality measurement requests transmitted by the base station, the method comprising:

(a) each of the UEs in the first subset receiving from the base station a request to begin channel quality measurements, whereby the base station does not transmit a request to begin channel quality measurements to the UEs in the second subset due to not having pending downlink transmissions;

(b) each of the UEs in the first subset performing channel quality measurements and transmitting to the base station the results of the channel quality measurements, whereby the UEs in the second subset do not perform channel quality measurements because they did not receive a request to begin channel quality measurements from the base station due to not having pending downlink transmissions; and

Applicant: Terry et al.
Application No.: 10/768,223

(c) the base station allocating radio resources used by the UEs in the first subset in response to the results of the channel quality measurements transmitted to the base station by the UEs in the first subset.

2. (currently amended): The method of claim 1 further comprising:

(d) each of the UEs in the first subset receiving a communication signal from the base station that indicates a particular coding rate, modulation type and at least one allocated time slot.

Claims 3 and 4 (Canceled)

5. (currently amended): The method of claim 2 wherein each of the UEs in the first subset prepare for reception of downlink data from the base station by setting reception parameters in accordance with the particular coding rate, the modulation type and the at least one allocated time slot indicated by the communication signal.

Claims 6-10 (Canceled)

11. (currently amended): The method of claim 1 wherein the base station determines which of the UEs in the first subset will make the best use of radio resources.

12. (currently amended): The method of claim 11 wherein the base station further determines specific time slots that the UEs in the first subset should use to receive downlink data from the base station.

13. (currently amended): The method of claim 1 wherein the request to begin channel quality measurements is sent by the base station to the UEs in the first subset in response to the base station receiving blocks of downlink data.

14. (previously presented): The method of claim 1 wherein the UEs that have pending downlink transmissions perform channel quality measurements until there are no longer pending downlink transmissions.

15. (currently amended): In a wireless communication system including a plurality of user equipment mobile terminals (UEs) and a base station, wherein a first subset of the UEs have pending downlink transmissions and a second subset of the UEs do not have pending downlink transmissions, a method of minimizing overhead signaling and optimizing radio resource utilization by restricting the transmission of channel quality measurement requests to only those UEs that have pending downlink transmissions so as to avoid unnecessary channel quality measurements performed by the UEs and also avoid unnecessary channel quality measurement requests transmitted by the base station, the method comprising:

(a) each of the UEs in the first subset receiving from the base station a request to begin channel quality measurements, whereby the base station does not transmit a request to begin channel quality measurements to the UEs in the second subset due to not having pending downlink transmissions;

(b) each of the UEs in the first subset performing channel quality measurements and transmitting to the base station the results of the channel quality measurements, whereby the UEs in the second subset do not perform

channel quality measurements because they did not receive a request to begin channel quality measurements from the base station due to not having pending downlink transmissions;

- (c) the base station determining which of the UEs in the first subset will make the best use of radio resources; and
- (d) the base station sending downlink data only to the UEs determined in step (c).

16. (previously presented): The method of claim 15 further comprising:

- (e) each of the UEs determined in step (c) receiving a communication signal from the base station that indicates a particular coding rate, modulation type and at least one allocated time slot.

17. (previously presented): The method of claim 16 wherein each of the UEs determined in step (c) prepare for reception of downlink data from the base station by setting reception parameters in accordance with the particular coding rate, the modulation type and the at least one allocated time slot indicated by the communication signal.

18. (previously presented): The method of claim 17 wherein the base station further determines specific time slots that the UEs determined in step (c) should use to receive downlink data from the base station.

19. (currently amended): The method of claim 15 wherein the request to begin channel quality measurements is sent by the base station to the UEs in the first subset in response to the base station receiving blocks of downlink data.

20. (previously presented): The method of claim 15 wherein the UEs that have pending downlink transmissions perform channel quality measurements until there are no longer pending downlink transmissions.

21. (currently amended): A wireless communication system for minimizing overhead signaling and optimizing radio resource utilization, the system comprising:

(a) a base station; and
(b) a plurality of user equipment mobile terminals (UEs) ~~station~~, wherein the base station sends a request to begin channel quality measurements only to a first subset of the UEs that have pending downlink transmissions and not to a second subset of the UEs that do not have pending downlink transmissions, the UEs in the first subset perform channel quality measurements and transmit to the base station the results of the channel quality measurements, and the base station allocates radio resources used by the UEs in the first subset in response to the results of the channel quality measurements transmitted to the base station by the UEs in the first subset.

22. (currently amended): The system of claim 21 wherein each of the UEs in the first subset receives a communication signal from the base station that indicates a particular coding rate, modulation type and at least one allocated time slot.

23. (currently amended): The system of claim 22 wherein each of the UEs in the first subset prepares for reception of downlink data from the base

station by setting reception parameters in accordance with the particular coding rate, the modulation type and the at least one allocated time slot indicated by the communication signal.

24. (currently amended): The system of claim 21 wherein the base station determines which of the UEs in the first subset will make the best use of radio resources.

25. (currently amended): The system of claim 21 wherein the base station further determines specific time slots that the UEs in the first subset should use to receive downlink data from the base station.

26. (currently amended): The system of claim 21 wherein the request to begin channel quality measurements is sent by the base station to the UEs in the first subset in response to the base station receiving blocks of downlink data.

27. (previously presented): The system of claim 21 wherein the UEs that have pending downlink transmissions perform channel quality measurements until there are no longer pending downlink transmissions.

28. (currently amended): A wireless communication system for minimizing overhead signaling and optimizing radio resource utilization, the system comprising:

- (a) a base station; and
- (b) a plurality of user equipment mobile terminals (UEs) ~~station~~, wherein the base station sends a request to begin channel quality measurements only to a

first subset of the UEs that have pending downlink transmissions and not to a second subset of the UEs that do not have pending downlink transmissions, the UEs in the first subset perform channel quality measurements and transmit to the base station the results of the channel quality measurements, and the base station sends downlink data to those UEs in the first subset that the base station determines will make the best use of radio resources.

29. (previously presented): The system of claim 28 wherein each of the UEs that the base station determines will make the best use of radio resources receives a communication signal from the base station that indicates a particular coding rate, modulation type and at least one allocated time slot.

30. (previously presented): The system of claim 29 wherein each of the UEs that the base station determines will make the best use of radio resources prepares for reception of downlink data from the base station by setting reception parameters in accordance with the particular coding rate, the modulation type and the at least one allocated time slot indicated by the communication signal.

31. (previously presented): The system of claim 28 wherein the base station further determines specific time slots that the UEs that the base station determines will make the best use of radio resources should use to receive downlink data from the base station.

32. (previously presented): The system of claim 28 wherein the request to begin channel quality measurements is sent by the base station to the UEs that

Applicant: Terry et al.
Application No.: 10/768,223

the base station determines will make the best use of radio resources in response to the base station receiving blocks of downlink data.

33. (previously presented): The system of claim 28 wherein the UEs that have pending downlink transmissions perform channel quality measurements until there are no longer pending downlink transmissions.

34. (new): In a wireless communication system including a plurality of user equipment mobile terminals (UEs) and a base station, wherein a subset of the UEs have pending downlink transmissions, a method of minimizing overhead signaling and optimizing radio resource utilization, the method comprising:

(a) each of the UEs in the subset receiving from the base station a request to begin channel quality measurements;

(b) each of the UEs in the subset transmitting to the base station the results of the channel quality measurements;

(c) the base station allocating radio resources used by the UEs in the subset in response to the results of the channel quality measurements; and

(d) each of the UEs in the subset receiving a communication signal from the base station that indicates a particular coding rate, modulation type and at least one allocated time slot, wherein each of the UEs in the subset prepare for reception of downlink data from the base station by setting reception parameters in accordance with the particular coding rate, the modulation type and the at least one allocated time slot indicated by the communication signal.

35. (new): The method of claim 34 wherein the base station determines which of the UEs in the subset will make the best use of radio resources.

36. (new): The method of claim 35 wherein the base station further determines specific time slots that the UEs in the subset should use to receive downlink data from the base station.

37. (new): The method of claim 34 wherein the request to begin channel quality measurements is sent by the base station to the UEs in the subset in response to the base station receiving blocks of downlink data.

38. (new): The method of claim 34 wherein the UEs that have pending downlink transmissions perform channel quality measurements until there are no longer pending downlink transmissions.

39. (new): In a wireless communication system including a plurality of user equipment mobile terminals (UEs) and a base station, wherein a subset of the UEs have pending downlink transmissions, a method of minimizing overhead signaling and optimizing radio resource utilization, the method comprising:

(a) each of the UEs in the subset receiving from the base station a request to begin channel quality measurements;

(b) each of the UEs in the subset transmitting to the base station the results of the channel quality measurements;

(c) the base station determining which of the UEs in the subset will make the best use of radio resources;

(d) the base station sending downlink data only to the UEs determined in step (c); and

(e) each of the UEs determined in step (c) receiving a communication signal from the base station that indicates a particular coding rate, modulation type and at least one allocated time slot, wherein each of the UEs determined in step (c) prepare for reception of downlink data from the base station by setting reception parameters in accordance with the particular coding rate, the modulation type and the at least one allocated time slot indicated by the communication signal.

40. (new): The method of claim 39 wherein the base station further determines specific time slots that the UEs determined in step (c) should use to receive downlink data from the base station.

41. (new): The method of claim 39 wherein the request to begin channel quality measurements is sent by the base station to the UEs in the subset in response to the base station receiving blocks of downlink data.

42. (new): The method of claim 39 wherein the UEs that have pending downlink transmissions perform channel quality measurements until there are no longer pending downlink transmissions.

43. (new): A wireless communication system for minimizing overhead signaling and optimizing radio resource utilization, the system comprising:

(a) a base station; and

(b) a plurality of user equipment mobile terminals (UEs), wherein the base station sends a request to begin channel quality measurements only to a subset of the UEs that have pending downlink transmissions, the UEs in the subset

transmit to the base station the results of the channel quality measurements, the base station allocates radio resources used by the UEs in the subset in response to the results of the channel quality measurements, and each of the UEs in the subset receives a communication signal from the base station that indicates a particular coding rate, modulation type and at least one allocated time slot, wherein each of the UEs in the subset prepares for reception of downlink data from the base station by setting reception parameters in accordance with the particular coding rate, the modulation type and the at least one allocated time slot indicated by the communication signal.

44. (new): The system of claim 43 wherein the base station determines which of the UEs in the subset will make the best use of radio resources.

45. (new): The system of claim 43 wherein the base station further determines specific time slots that the UEs in the subset should use to receive downlink data from the base station.

46. (new): The system of claim 43 wherein the request to begin channel quality measurements is sent by the base station to the UEs in the subset in response to the base station receiving blocks of downlink data.

47. (new): The system of claim 43 wherein the UEs that have pending downlink transmissions perform channel quality measurements until there are no longer pending downlink transmissions.

48. (new): A wireless communication system for minimizing overhead signaling and optimizing radio resource utilization, the system comprising:

(a) a base station; and
(b) a plurality of user equipment mobile terminals (UEs), wherein the base station sends a request to begin channel quality measurements only to a subset of the UEs that have pending downlink transmissions, the UEs in the subset transmit to the base station the results of the channel quality measurements, the base station sends downlink data to those UEs in the subset that the base station determines will make the best use of radio resources, and each of the UEs that the base station determines will make the best use of radio resources receives a communication signal from the base station that indicates a particular coding rate, modulation type and at least one allocated time slot.

49. (new): The system of claim 48 wherein each of the UEs that the base station determines will make the best use of radio resources prepares for reception of downlink data from the base station by setting reception parameters in accordance with the particular coding rate, the modulation type and the at least one allocated time slot indicated by the communication signal.

50. (new): The system of claim 48 wherein the base station further determines specific time slots that the UEs that the base station determines will make the best use of radio resources should use to receive downlink data from the base station.

Applicant: Terry et al.
Application No.: 10/768,223

51. (new): The system of claim 48 wherein the request to begin channel quality measurements is sent by the base station to the UEs that the base station determines will make the best use of radio resources in response to the base station receiving blocks of downlink data.

52. (new): The system of claim 48 wherein the UEs that have pending downlink transmissions perform channel quality measurements until there are no longer pending downlink transmissions.